



STATEMENT OF WORK

Perchlorate Bioaccumulation Analysis

~~12-Oct~~14 Dec 99

1.0 SCOPE

This requirement is in two phases. Phase one consists of a preliminary analysis and survey. Phase two consists of limited sampling program for those locations for which preliminary data review suggests the need. This program will be focused on perchlorate, a limited number of other analytes, exposure routes identified from preliminary findings, and will be conducted in an efficient and cost-effective fashion, incorporating the smallest number of samples that would allow valid exposure assessment.

7. The purpose of this effort is to evaluate potential threats to ecological receptors associated with possible food chain exposures to perchlorate. The Institute for Environment, Safety and Occupational Health Risk Analysis, Environmental Sciences Branch (IERA/RSRE), as co-chair of the Ecological Effects/Transport and Transformation Subcommittee of the Interagency Perchlorate Steering Committee (IPSC), is tasked with providing technical support to fill data gaps on ecological effects of perchlorate. The IPSC has identified 5 sites where environmental releases of perchlorate may be moving through the ecosystem and food web. Although a number of toxicity tests have been performed to evaluate acute ecological effects of perchlorate, little is known about the bioaccumulation potential of perchlorate and its movement through the food chain. Human health and ecological assessments are mutually supportive when conducting a health risk assessment, particularly when food chain issues are of potential concern.

Objectives of this effort are to characterize potentially complete contaminant exposure pathways for identified receptors of concern, evaluate the potential for bioaccumulation, and identify any specific food chain issues.

2.0 APPLICABLE DOCUMENTS

In performance of the effort associated with this Statement of Work (SOW), the contractor shall consider the documents referenced in paragraph 2 above. Laws and regulations, as applicable, shall be considered compliance requirements. Department of Defense directives (DoDD), Air Force Instructions (AFI) and other guidance documents referenced contain significant information on DoD and agency policies and procedures, and as such, shall be considered guidance information. The Contractor is responsible for compliance with the applicable federal, state and local laws and regulations for this delivery order including required procedures and protocols. Guidance and requirements shall be drawn from applicable government documents and regulations including those relevant to both human and ecological assessment: Risk Assessment Guidance for Superfund Volume I and II, EPA Exposure Factors Handbook, EPA Guidance for Data Usability in Risk Assessment, EPA Framework for Ecological Risk Assessment, EPA Wildlife Exposure Factors Handbook, and Ecological Risk Assessment Guidance for Superfund.

3.0 TECHNICAL REQUIREMENTS

2.1 PHASE I—PRESURVEY:

3.1.1 A project teleconference kickoff meeting shall be held between the contractor, the site managers and the Technical Program Manager (TPM). If necessary, separate teleconferences shall be held to accommodate site manager schedules. The purpose of the meeting is to discuss and clarify all project requirements.

3.1.2 The contractor shall prepare and submit meeting minutes documenting and summarizing substantive information discussed at each meeting to include, but not limited to, site meetings, VTCN, and teleconferences. (A008, Meeting Minutes)

3.1.3 The contractor shall track and provide monthly updates on progress of work performed (A001, Contractor's Progress, Status and Management Report).

3.1.4 The contractor shall conduct site visits not-to-exceed 3 days duration to each of five sites: Lake Mead, Southern Colorado River near Yuma, AZ; Holloman AFB, NM; Naval Weapons Industrial Reserve Plant, McGregor, TX; and Naval Surface Warfare Center, Indian Head Division, MD; or alternative selected by the TPM. The contractor shall provide a site visit team of up to two individuals to include environmental professionals experienced in media and biota sampling, biology, ecology, and environmental risk assessment. } others?

3.1.5 The contractor shall review data at each site and prepare a Work Plan for screening level environmental sampling following the first two steps of the Superfund guidance document. The work plan shall include a discussion of receptors of concern, exposure pathways, conceptual site models, and sampling strategies. Receptor groups shall include fish, vascular plants, soil invertebrates, and terrestrial mammals. Sampling media shall include soil, water, sediment and biota tissues, as required. Samples shall be analyzed for perchlorate and iodide. This sampling effort is not a full risk assessment. Rather, it is a quantitation of potentially complete exposure routes and will form the basis for developing information related to bioaccumulation of perchlorate. The contractor shall establish standard procedures for accomplishing the effort to include methods, tasks, equipment, project timelines and personnel requirements for performing any tasks associated with the work effort. (A002, Pretest Survey Report/Work Plan)

3.2 PHASE II—SURVEY:

3.2.1 The Contractor shall perform the effort as written in the CDRL A002, Pretest Survey Plan/Work Plan, required in paragraph 3.1.5 above. Any deviation, waiver, change, or amendment to the effort shall be requested in writing. No implementation shall be commenced without written approval from the Contracting Officer or their designated representative (TPM).

3.2.2 The Contractor shall prepare and submit minutes documenting and summarizing substantive information discussed at each meeting conducted during the performance of Phase II of this effort. (A008, Conference Agenda/Meeting Minutes)

3.2.3 The Contractor shall prepare a Health and Safety Plan (HSP). The HSP shall comply with the Air Force, OSHA, EPA, state, and local safety regulations regarding the proposed work effort. The contractor shall certify to the government that it has reviewed the HSP with each employee and subcontractor employee prior to the time the employee engages in field activities. (A005, Environmental HSP)

3.2.4 The contractor shall develop a comprehensive technical report based on the data quality objectives, conceptual site models, receptors of concern, quantified exposure pathways and identified food webs and food chain pathways. The report shall include field investigations and sampling and analysis results. The report shall also include the quantified exposure pathways and identified data gaps. The contractor shall evaluate the bioaccumulation potential of perchlorate and develop bioaccumulation factors for groups of receptors common to each site. (A003, Scientific and Technical Reports-Final Report)

include exec summary

4.0 GOVERNMENT POINTS OF CONTACT

TECHNICAL PROJECT MANAGER (TPM)
 G. Cornell Long
 IERA/RSRE
 2513 Kennedy Circle
 Brooks AFB, TX 78235-5123
 Tel: (210)536-6121
 DSN: 240-6121
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 Email: cornell.long@brooks.af.mil

5.0 CONTRACT DATA REQUIREMENTS LIST (CDRLS)

DATA ITEM NO BLK 1	CONTRACT REFERENCE SOW PARA NR BLK 5	FREQUENCY BLK 10	AS OF DATE BLK 11	DATE OF FIRST SUBMISSION BLK 12	SUBSEQUENT SUBMISSION BLK 13	DISTRIBUTION BLK 14 DRAFT FINAL REPRO	
PHASE I							
A008	3.1.2	ASREQ	N/A	10 DAM			*
A001	3.1.3	MTHLY	EOM	45 DAC	MONTHLY THEREAFTER		*
A002	3.1.5	ONE/R	N/A	60 DAM	15 days after receipt of comments	*	*
PHASE II							
A008	3.2.2	ASREQ	N/A	10 DAM			*
A005	3.2.3	ONE/R	N/A	30 DAM	15 days after receipt of comments		*
A003	3.2.4	ONE/R	N/A	60 DAS	25 days after receipt of comments	*	*

REMARKS:

- 1 Provide DD 250 Z following (1) government acceptance of the final report, and (2) submission of the final status report (A001) which reflects work completion and total cost of the effort.
- 2 Distribution addresses will be provided by the TPM.
- 3 ALL reports shall be submitted electronically, if possible.
- 4 No report shall be finalized without written direction from the Government

*Electronic distribution desired